BAS21H

High Voltage Switching Diode

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited For Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

RoHS COMPLIANT

SOD-323

Mechanical Date

- **Case:** JEDEC SOD-323 molded plastic body over chip
- **Terminals:** Solder plated, solderable per MIL-STD-750 Method 2026
- **Polarity:** types the band by laser denotes the cathode
- **Weight:** 0.0063gram

Maximum Ratings @T_A=25℃ unless otherwise specified

Items	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	250	V
Continuous Reverse Voltage	V_R	200	V
Non- repetitive Peak Forward Surge Current (t=1s)	I_{FSM}	500	mA
Non- repetitive Peak Forward Current (t =8.3ms half sine)	I_{FSM}	2.5	A
Repetitive Peak Forward Current	I_{FRM}	625	mA
Maximum average forward repetitive Current (av. over any 20 ms period)	$I_{F(AV)}$	200	mA

Thermal Characteristics

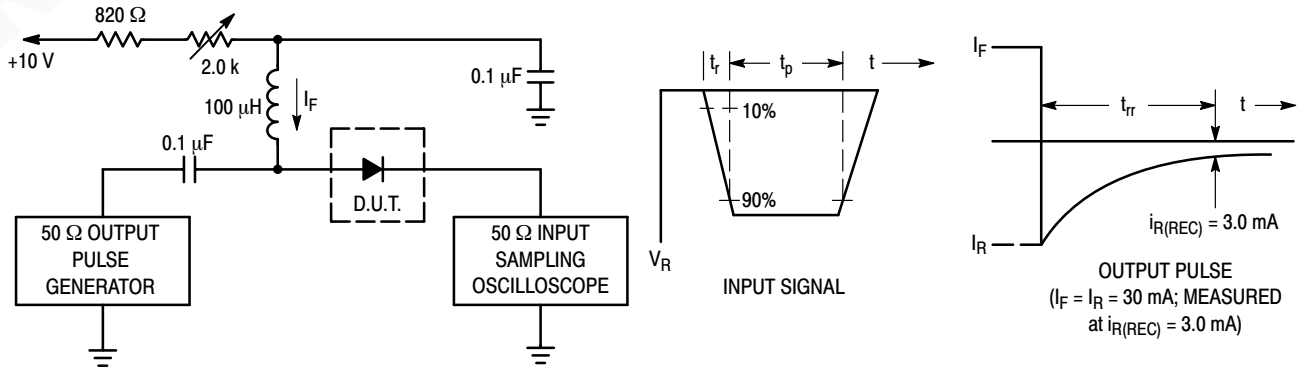
Power Dissipation	P_d	200	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	635	°C / W
Operating and Storage Temperature Rage	T_J, T_{STG}	–65 to +150	°C

Electrical Characteristics @T_A=25℃ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit
Reverse Voltage Leakage Current (V_R = 200 Vdc) (V_R = 200 Vdc, T_J = 150°C)	I_R	– –	0.1 100	μAdc
Reverse Breakdown Voltage (I_{BR} = 100 μAdc)	$V_{(BR)}$	250	–	Vdc
Forward Voltage (I_F = 100 mAdc) (I_F = 200 mAdc)	V_F	– –	1000 1250	mV
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_D	–	5.0	pF
Reverse Recovery Time (I_F = I_R = 30 mAdc, R_L = 100 Ω)	t_{rr}	–	50	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

Figure 1. Recovery Time Equivalent Test Circuit



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 30 mA.
3. $t_p \gg t_{rr}$

Typical Characteristics

Figure 2. Forward Voltage

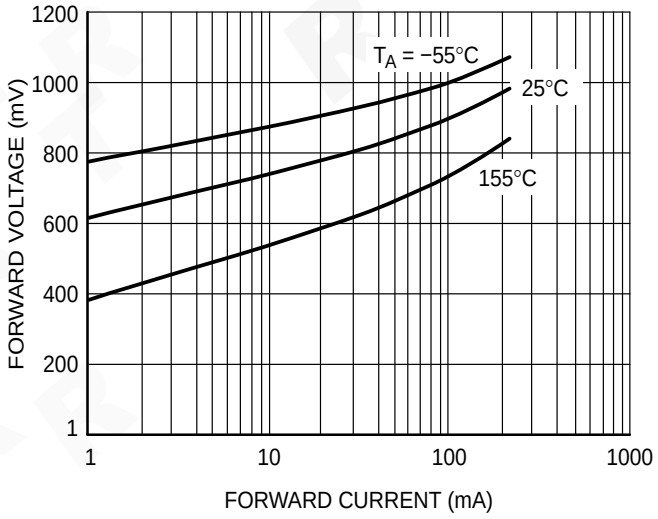


Figure 3. Reverse Leakage

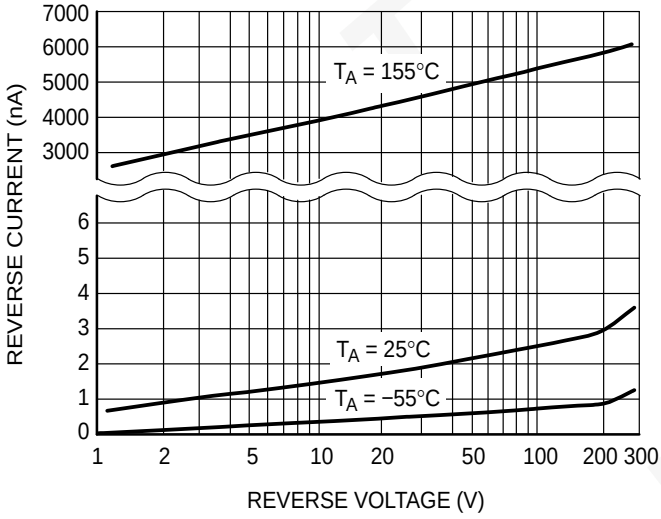


Figure 4. Diode Capacitance

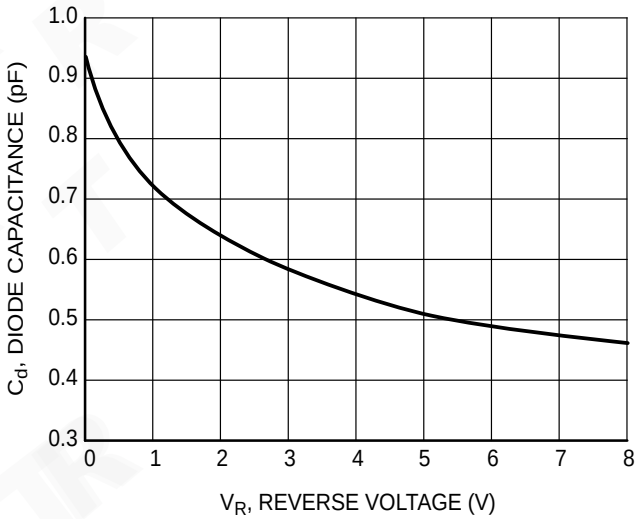
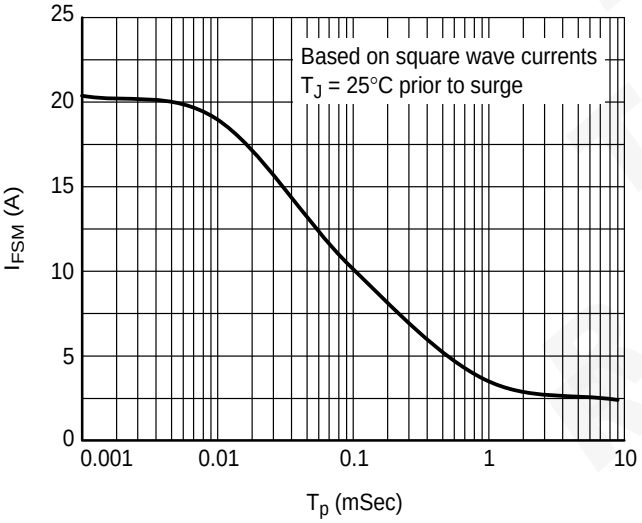
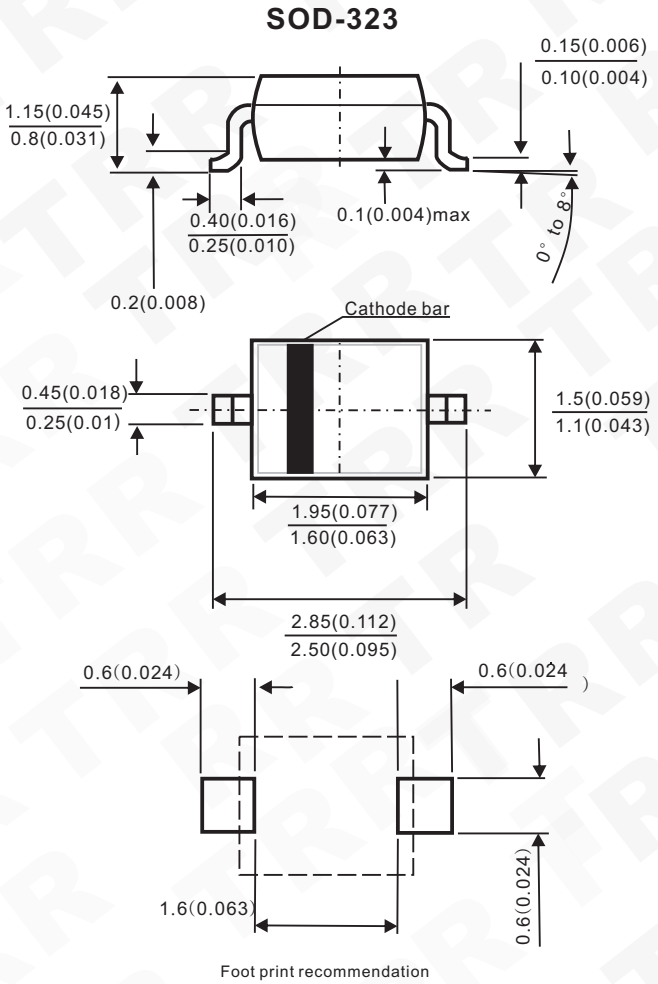


Figure 5. Maximum Non−repetitive Peak Forward Current as a Function of Pulse Duration, Typical Values



Package Outline



Foot print recommendation

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

  I_{FSM} : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.

  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.